FORM F	TO-1390	(Modified) U.S. DEPARTMENT	OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER			
			TO THE UNITED STATES	214129US0XPCT			
		DESIGNATED/ELECTE	ED OFFICE (DO/EO/US)	U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR			
	CONCERNING A FILING UNDER 35 U.S.C. 371 09/926217						
INTE	RNATI	ONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED			
TOTAL Y	PCT/JP00/00416 27 JANUARY 2000 NONE						
IIIL	OFI	VENTION					
мет	HOI	FOR PRODUCING LIGHT	T-COLORED LIQUID SEASONING				
APPL	ICAN'	T(S) FOR DO/EO/US					
		DOH, et al.					
Appli	cant h	erewith submits to the United Sta	tes Designated/Elected Office (DO/EO/US) th	e following items and other information:			
1.	\boxtimes	This is a FIRST submission of i	tems concerning a filing under 35 U.S.C. 371.				
2.		This is a SECOND or SUBSEQ	UENT submission of items concerning a filing	g under 35 U.S.C. 371.			
3.	\boxtimes	This is an express request to beg (6), (9) and (24) indicated below	in national examination procedures (35 U.S.C.	. 371(f)). The submission must include itens (5),			
4.			expiration of 19 months from the priority date	(Article 31).			
. 5.	×		lication as filed (35 U.S.C. 371 (c) (2))	` ,			
. /			ired only if not communicated by the Internat	tional Bureau).			
		· -	d by the International Bureau.	·			
		c. is not required, as the a	application was filed in the United States Recei	iving Office (RO/US).			
6.	\boxtimes	An English language translation	of the International Application as filed (35 U	S.C. 371(c)(2)).			
II.		a. 🛭 is attached hereto.					
ħ		b. \square has been previously su	bmitted under 35 U.S.C. 154(d)(4).				
7.	\boxtimes	Amendments to the claims of th	e International Application under PCT Article	19 (35 U.S.C. 371 (c)(3))			
		a. are attached hereto (red	quired only if not communicated by the Interna	ational Bureau).			
ψ.j		b. \square have been communicated	ted by the International Bureau.				
1		c. \square have not been made; h	owever, the time limit for making such amenda	ments has NOT expired.			
fr"# #""}		d. A have not been made an	id will not be made.				
38.			of the amendments to the claims under PCT A	Article 19 (35 U.S.C. 371(c)(3)).			
9.	×	An oath or declaration of the in					
]10. ≟		An English language translation Article 36 (35 U.S.C. 371 (c)(5)	of the annexes of the International Preliminar).	y Examination Report under PCT			
11.		A copy of the International Prel	iminary Examination Report (PCT/IPEA/409).				
12.	\boxtimes	A copy of the International Sear	rch Report (PCT/ISA/210).				
1	tems :	13 to 20 below concern docume	nt(s) or information included:				
13.		An Information Disclosure State	tement under 37 CFR 1.97 and 1.98.				
14.		An assignment document for re	cording. A separate cover sheet in compliance	with 37 CFR 3.28 and 3.31 is included.			
15.		A FIRST preliminary amendment	ent.				
16.		☐ A SECOND or SUBSEQUENT preliminary amendment.					
17.		A substitute specification.					
18.		A change of power of attorney					
19.		A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.					
20.			international application under 35 U.S.C. 154				
21.			anguage translation of the international applica	non under 35 U.S.C. 154(d)(4).			
22.	821 	Certificate of Mailing by Expre	SS IVIAII				
23.	X	Other items or information:					
	Request for Consideration of Documents in International Search Report PCT/IB/308						

Page 1 of 2

U.S. APPLICATION	international application no. PCT/JP00/00416			4	DOCKET NUMBER USOXPCT		
24. The following	lowing fees are submitted:.					CALCULATIONS	PTO USE ONLY
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)): Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO						CIRCUMITION	TTO OBL GALL
☑ International USPTO but	preliminary examination fee (37 International Search Report prepare	CFR 1.482) not paid to ared by the EPO or JPO			\$860.00		
	preliminary examination fee (37 onal search fee (37 CFR 1.445(a)	•	JSPTO)	\$710.00		
☐ International	preliminary examination fee (37 s did not satisfy provisions of PC	7 CFR 1.482) paid to USP	TO		\$690.00		
☐ International and all claim	preliminary examination fee (37 as satisfied provisions of PCT Ar	7 CFR 1.482) paid to USP ticle 33(1)-(4)	ТО		\$100.00		
	ENTER APPROPRI	ATE BASIC FEE	AM(OUN	T = TV	\$860.00	
Surcharge of \$130.0 months from the ear	00 for furnishing the oath or decli- rliest claimed priority date (37 C	aration later than FR 1.492 (e)).	□ 20)	□ 30	\$0.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	1		RATE		
Total claims	4 - 20 =	0		х	\$18.00	\$0.00	
Independent claims	1 - 3 =	0		х	\$80.00	\$0.00	
Multiple Dependent	Claims (check if applicable).	A DOTTE CAT CT	(F A 72	17.0	XIC	\$270.00	
Amn1:4 -1-1	ms small entity status. (See 37 C	F ABOVE CALCU				\$1,130.00	
Applicant clair reduced by 1/2		FR 1.27). The fees indicat	ea abo	ve an	: - 	\$0.00	<u> </u>
			SUB'	<u> 101</u>	CAL =	\$1,130.00	
Processing fee of \$1 months from the ear	130.00 for furnishing the English rliest claimed priority date (37 C	translation later than FR 1.492 (f)).	□ 20	0	□ 30 +	\$0.00	
		TOTAL NATIO)NAI	FI	EE =	\$1,130.00	
Fee for recording the accompanied by an	ne enclosed assignment (37 CFR appropriate cover sheet (37 CFR	1.21(h)). The assignment (3.28, 3.31) (check if ap	must l	oe le).		\$0.00	
		TOTAL FEES E	NCL	OS	E D =	\$1,130.00	
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	s are to be charged to a credit car						
NOTE: Where a	appropriate time limit under ust be filed and granted to rest	37 CFR 1.494 or 1.495 h	as not	been	met, a petit		
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Description

Method for Producing Light-Colored Liquid Seasoning

Technical Field

The present invention relates to a method for producing a seasoning liquid, and more particularly to a method for producing a seasoning liquid which assumes a light color, undergoes a darkening process slowly, and has an excellent aroma with rich flavor and umami taste.

Background Art

Production of an usukuchi soy sauce, which is a lightcolored soy sauce, generally employs wheat serving as a
source of starch, and soybeans or similar beans serving as a
source of protein. However, conventional usukuchi soy sauces
provides more saltiness than umami, because the amount of
starch material to be mixed with protein material is slightly
greater than that of the protein material, or salt
concentration is raised so as to suppress coloration.

In addition, the darkening rate of conventional usukuchi soy sauces is very high, making the sauces unstable. Moreover, in order to attain a light color, fermentating period is shortened, or even further, a method for bleaching the produced soy sauce is employed. Thus, conventional usukuchi soy sauces have disadvantages in that the savory flavor is not satisfactory.

A method for producing a soy sauce having a light color and darkening slowly is disclosed in, for example, Japanese Patent Application Publication (kokoku) No. 57-48188, in which 10-30% (by weight) gluten is used together with at least one member selected from among corn, sorghum, or common millet serving as a source of starch, to thereby produce light-colored soy sauce having an excellent savory flavor and undergoing a darkening process slowly.

However, the aforementioned method has the following disadvantages: a) since starch materials other than wheat are employed, the aroma unique to wheat is not produced, b) corn, sorghum, and common millet have low glutamic acid content, and therefore the glutamic acid content of the resultant soy sauce also becomes low, resulting in an unsatisfactory umamitaste, c) a satisfactory light color is not attained.

In view of the foregoing, the present inventors have undertaken various research efforts in an attempt to solve the above-described problems, and an object of the present invention is to provide a seasoning liquid which assumes a light color of No. 35 or higher in accordance with JAS color code (hereinafter, in the present description, the term "light color" refers to a color of No. 35 in accordance with JAS color code or lighter colors), which darkens slowly, and which has an excellent aroma with rich flavor and umami taste, and have found that, when at least gluten is employed as an essential material for koji-making and fermentation, and the salt concentration of water employed for fermentation is

controlled to 7-24%, satisfactory results can be attained, thus leading to completion of the present invention.

Disclosure of the Invention

Accordingly, the present invention provides a method for producing a light-colored seasoning liquid, characterized by comprising *koji*-making by the employment of a raw material mixture containing soybeans or a similar material in an amount of 0-40% and, in an amount of 100-60%, raw material consisting of, on a dry weight basis, 25-100% gluten and 75-0% wheat, and mixing the thus-obtained *koji* product and 7-24% salt water for fermentation.

Best Mode for Carrying Out the Invention

Gluten to be used in the present invention includes wheat gluten and corn gluten, with wheat gluten being particularly preferred. Either wet gluten or dry gluten obtained by drying wet gluten may be used, and dry gluten is particularly preferred. Examples of dry gluten include vital gluten powder and dry wheat gluten.

In the present invention, the wheat to be used as the starch material may be wheat grains or wheat flour.

The gluten or the mixture of gluten and wheat must be treated with heat so as to sufficiently denature the protein contained therein. Examples of preferred methods for heat treatment include a method in which steam is applied directly to gluten or a mixture of gluten and wheat, without addition

of water, so as to control the water content thereof to fall within 12-18%, followed by formation of pellets by use of a pellet mill, and subsequently treating the resultant pellets in a high-pressure steam-cooking vessel at a gauge pressure of at least 1.0 kg/cm² for two minutes or more, and a method in which gluten or a mixture of gluten is extruded at a temperature equal to or higher than 110°C by use of an extruder.

The thus-heat-treated gluten is completely deactivated, and exhibits no stickiness. Also, protein is denatured to a satisfactory degree. Therefore, when the thus-obtained gluten is appropriately ground, water is added thereto in such an amount that attains a water content of 35-50%, and used in koji-making, no operational problems arises. Rather, the swelling property of gluten provides an excellent bulkiness of material, which is quite beneficial to ventilated koji-making. In addition, when such gluten is mixed with heat-treated soybeans or a similar material, similar excellent koji-making property is exhibited.

Moreover, the resultant koji product exhibits higher protease activity and glutaminase activity than in the case in which a greater amount of gluten is used.

In the present invention, soybeans or a similar material to be used as the protein material include, but are not limited to, defatted soybeans, whole soybeans, and ground soybeans. These are soaked in water, or water is added thereto; and then steam cooked, or alternatively, together

with the aforementioned gluten and wheat flour, shaped through extrusion by use of an extruder at a temperature equal to or greater than 110°C, to thereby sufficiently denature the proteins contained therein.

According to the present invention, very important factors for attaining the object of the present invention are to control the proportions of gluten and wheat such that, on the basis of dry weight, gluten accounts for 25-100% and wheat accounts for 75-0% with respect to the total amount of the two materials employed, and to control the proportion of soybeans or a similar material such that soybeans or a similar material such that soybeans or a similar material accounts for 0-40% of the entirety of the raw materials employed.

Regarding the proportions of gluten and wheat, gluten may be used alone without wheat being employed. However, in the case in which wheat is employed, the proportion of wheat must account for 75% or less and gluten must be incorporated in an amount of at least 25%. In this connection, when gluten is incorporated in an amount smaller than the abovementioned amount, although the resultant seasoning liquid has a light color, the seasoning is prone to lack umami, and thus the object of the present invention cannot be attained.

When soybeans or a similar material is incorporated, the amount thereof must be 40% or less. If the amount of soybeans or a similar material is in excess of 40%, the resultant seasoning has an intense umami taste; however, not only is reddish tint originating from soybeans or similar

material intensified, but also the seasoning has a higher rate of darkening with unsatisfactory savory flavor, and thus the object of the present invention cannot be attained.

In the present invention, it is also necessary that a koji product obtained from koji-making by use of the aforementioned raw material mixture be charged with 7-24% salt water for maturing through fermentation. When the salt concentration is less than 7%, putrefaction occurs due to a growth of unwanted microorganisms, whereas when the salt concentration is more than 24%, umami taste of the resultant seasoning liquid is unsatisfactory, and thus the object of the present invention cannot be attained. The fermentation maturing is allowed to proceed, under routine monitoring and control of moromi mash, for 2-5 months at 10-30°C, preferably for 2-3 months at 10°C; or alternatively, for one month at 10°C and subsequently for a further 1-2 months at 20°C. Thereafter the resultant moromi mash is subjected to filtration or pressing, to thereby yield a seasoning liquid such as soy sauce. The thus-yielded soy sauce or any other type of seasoning liquid has a light color, a slow darkening rate, a very rich umami taste, and an excellent aroma. the present invention, when the volume of the salt water to be charged is 1.35-1.65 times the weight of the raw material mixture, even more remarkable results can be obtained. the case in which the volume is less than 1.35 times the weight of the resultant mixture, although a very rich umami taste can be attained, the color is darkened, which is not

preferable.

Examples

The present invention will next be described in detail by way of Example.

Example 1

A mixture of vital gluten powder (840 g) and wheat flour (560 g) was moistened through direct application of steam so as to attain a water content of 15%, and formed into pellets having a diameter of 4 mm by use of a pellet mill. Subsequently, the pellets were steam cooked for four minutes with saturated steam at a gauge pressure of $1.5 \, \text{kg/cm}^2$, and then mashed to thereby yield a mashed product.

In the meantime, water (690 ml) was added to defatted soybeans (600 g) and the resultant mixture was steam-cooked for 30 minutes with saturated steam at a gauge pressure of $1.0~{\rm kg/cm^2}$, to thereby prepare steam-cooked soybeans.

To the above-obtained mashed product, water (420 ml) and then the steam-cooked soybeans were added, and the water content of the mixture was adjusted to 46%. Subsequently, seed koji was inoculated to the mixture and the resultant mixture was subjected to koji-making for 40 hours at 22-35°C, to thereby yield a koji product.

The thus-obtained *koji* product and salt water (3000 ml) having a salt concentration of 7.5% were charged in a tank for fermentation for three months at 10°C. The resultant mixture was pressed, to thereby yield a seasoning liquid.

The thus-obtained seasoning liquid had a color of JAS color code #43, which represents a very light color. The total nitrogen content of the seasoning liquid was as high as 3.02%, and moreover, the glutamic acid content was 4.54%, which is remarkably high, providing a very rich umami taste. Test Example 1

A koji product obtained in a manner similar to that described in Example 1 and salt water having a salt concentration listed in Table 1 (3,000 ml) were charged in a tank for fermentation for one month at 10°C, and subsequently for a further two months at 20°C. The resultant mixture was pressed to thereby yield a seasoning liquid. Each of the thus-obtained seasoning liquid samples was tested with respect to the following criteria: JAS color code, total nitrogen (TN) content, glutamic acid (Glu) content, and amount of glutamic aid per unit amount of nitrogen (Glu/TN). The results are shown in Table 1.

Table 1

No.	Salt (%)	JAS color code	TN (%)	Glu (%)	Glu/TN (mg/g)
1	7	42	3.14	4.24	1350
2	15	40	2.99	4.38	1465
3	22	37	2.93	4.49	1532
4	24	35	2.95	4.07	1380
5	26	31	2.95	3.57	1210

Test Example 2

A koji product obtained in a manner similar to that

described in Example 1 and salt water having a salt concentration of 15% (3,000 ml) were charged in a tank for fermentation under temperature conditions shown in Table 2. The resultant mixture was pressed, to thereby yield a seasoning liquid. Each of the thus-obtained seasoning liquid samples was tested with respect to the following criteria:

JAS color code, total nitrogen (TN) content, glutamic acid (Glu) content, and the amount of glutamic acid per unit amount of nitrogen. The results are shown in Table 2.

Table 2

No.	fermentation temp.(°C)		JAS color	TN	Glu	Glu/TN
NO.	0-1 month	1-3 months	code	(용)	(%)	(mg/g)
6	10	10	41	3.00	4.84	1613
7	10	20	40	2.99	4.38	1465
8	20	20	40	3.04	3.74	1230

Test Example 3

A koji product obtained in a manner similar to that described in Example 1 and salt water having a salt concentration of 22% in an amount shown in Table 3 were charged in a tank for fermentation for one month at 10°C, and subsequently for a further two months at 20°C. The resultant mixture was pressed to thereby yield a seasoning liquid.

Each of the thus-obtained seasoning liquid samples was tested with respect to the following criteria: JAS color code, total nitrogen (TN) content, glutamic acid (Glu) content, and the

amount of glutamic acid per unit amount of nitrogen. The results are shown in Table 3.

Table 3

No.	Salt water (times)	JAS color code	TN (%)	Glu (%)	Glu/TN (mg/g)
9	1.0	23	4.11	5.72	1392
10	1.2	29	3.81	5.21	1367
11	1.35	35	3.74	4.65	1243
12	1.65	37	3.49	4.04	1158
13	1.8	41	3.30	3.78	1145

Example 2

The procedure of Example 1 was repeated, to thereby yield a steam-cooked and mashed product of a mixture of vital gluten powder and wheat flour.

The water content of the mixture was adjusted to 46% through addition of water to the mashed product, followed by addition of seed koji, and subsequently the mixture was subjected to koji-making for 40 hours at a temperature of 22-35°C, to thereby yield a koji product. The thus-obtained koji product and salt water (7.5%, 3,000 ml) were mixed, and allowed to ferment for three months at 10°C. The resultant mixture was pressed, to thereby yield a seasoning liquid.

The thus-obtained seasoning liquid assumed a very light color, a color of JAS color code #49. The total nitrogen content of the seasoning liquid was as high as 3.64%, and moreover, the glutamic acid content was 5.89%, which is

remarkably high providing a very rich umami taste. Test Example 4

A koji product obtained in a manner similar to that as described in Example 2 and salt water (3,000 ml) having a salt concentration shown in Table 4 was prepared for fermentation under temperature conditions listed in Table 4. The resultant mixture was pressed to thereby yield a seasoning liquid. Each of the thus-obtained seasoning liquid samples was tested with respect to the following criteria:

JAS color code, total nitrogen (TN) content, glutamic acid (Glu) content, and the amount of glutamic acid per unit amount of nitrogen. The results are shown in Table 4.

Table 4

	Salt	Ferment	ation te	emp.(°C)			Glu	Glu/TN
No.	(웅)	0-1 month	1-2 months	2-3 months	color code	TN (용)	(%)	(mg/g)
14	7	10	10	10	49	3.64	5.89	1618
15	15	10	10	10	48	3.24	5.80	1790
16	15	10	20	20	45	3.49	5.16	1479
17	15	10	20	25	43	3.39	5.10	1504
18	15	20	20	20	44	3.59	4.77	1329
19	22	10	10	10	47	2.92	5.32	1822
20	22	10	20	20	42	3.15	4.94	1568
21	22	10	20	25	40	3.40	4.97	1462
22	22	20	20	20	41	3.28	4.47	1363

Industrial Applicability

The present invention enables manufacture of a seasoning liquid product which assumes a very light color (JAS color code #35 or a lighter color), darkens slowly, has a stable color and gloss, provides a remarkable umami taste, and is endowed with excellent aroma.

CLAIMS

- 1. A method for preparing a light-colored seasoning liquid, characterized by comprising *koji*-making by the employment of a raw material mixture containing soybeans or a similar material in an amount of 0-40% and, in an amount of 100-60%, raw material consisting of, on a dry weight basis, 25-100% gluten and 75-0% wheat, and subjecting a resultant *koji* product and 7-24% salt water to fermentation.
- 2. The method for preparing a light-colored seasoning liquid according to claim 1, wherein the salt water is employed in an amount 1.35-1.65 times the weight of the raw material mixture.
- 3. The method for preparing a light-colored seasoning liquid according to claim 1 or 2, wherein the fermentation is carried out for 2-3 months at 10°C; or for one month at 10°C and subsequently for a further 1-2 months at 20°C.

Declaration and Power of Attorney For Patent Application

特許出願宣言書及び委任状

Japanese Language Declaration

日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。	As a below named inventor, I hereby declare that:
私の住所、私書箱、国籍は下記の私の氏名の後に記載された通りです。	My residence, post office address and citizenship are as stated next to my name.
下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者(下記の氏名が一つの場合)もしくは最初かつ共同発明者(下記の名称が複数の場合)であると信じています。 「淡色調味液の製造法」	I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled. METHOD FOR PRODUCING LIGHT-COLORED LIQUID SEASONING
上記発明の明細書は、 本書に添付されています。 2000 1月_27日に提出され、米国出願番号または特許協定条 約国際出願番号を PCT/JP00/20416 (該当する場合) に訂正されました。	the specification of which is attached hereto. was filed onJanuary 27, 2000 / as United States Application Number PCT International Application Number PCT/JP00/00416 / and was amended on (if applicable).
私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容 を理解していることをここに表明します。	I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.
私は、連邦規則法典第37編第1条56項に定義されるとおり、特許 資格の有無について重要な情報を開示する義務があることを認 めます。	I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

Japanese Language Declaration

(日本語宣言書)

私は、米国法典第35編119条 (a) - (d) 項又は365条 (b) 項に基づき下記の、米国以外の国の少なくとも一ヵ国を指定している特許協力条約365 (a) 項に基づく国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。

Prior Foreign Application(s) 外国での先行出願

(Number)	(Country)
(番号)	(国名)
(Number)	(Country)
(番号)	(国名)

私は、第35編米国法典119条(e)項に基づいて下記の米国特許 出願規定に記載された権利をここに主張いたします。

> (Application No.) (出願番号)

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(Filing Date) (出願日)

> (Application No.) (出願番号)

(Filing Date) (出願日)

(Application No.) (出願番号) (Filing Date) (出願日)

私は、私自信の知識に基づいて本宣言書中で私が行なう表明が 真実であり、かつ私の入手した情報と私の信じるところに基づ く表明が全て真実であると信じていること、さらに故意になさ れた虚偽の表明及びそれと同等の行為は米国法典第18編第1001 条に基づき、罰金または拘禁、もしくはその両方により処罰され ること、そしてそのような故意による虚偽の声明を行なえば、 出願した、又は既に許可された特許の有効性が失われることを 認識し、よつてここに上記のごとく宣誓を致します。 I hereby claim foreign priority under Title 35, United States Code, Section 119 (a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

	Priority Claimed 優先権主張	
(Day/Month/Year Filed)	Yes	No
(出願年月日)	はい	いいえ
(Day/Month/Year Filed)	Yes	No
(出願年月日)	はい	いいえ

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.

(Application No.) (Filing Date) (出願番号) (出願日)

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of application.

(Status: Patented, Pending, Abandoned) (現況:特許許可済、係属中、放棄済)

(Status: Patented, Pending, Abandoned) (現況:特許許可済、係属中、放棄済)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Japanese Language Declaration (日本語宣言書)

委任状:私は下記の発明者として、本出願に関する一切の手続き を米特許商標局に対して遂行する弁理士または代理人として、 下記の者を指名いたします。

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POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number)

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